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Michael Vannier

NCI – BIP

September 2002

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Alopecia Areata / Nail dystrophy

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Image Name: alopeciaareata_1_020727

Diagnosis: ALOPECIA AREATA / NAIL DYSTROPHY
NAIL PITTING

Body Site: nail, hand

Gender: Male

Contributor: Bernard Cohen, MD

Description: Scotch plaid pitting of the nails

Comments: This 12 year old boy with alopecia areata demonstrates the Scotch plaid pitting typical but not diagnostic of alopecia areata. The relationship between the presence of these nail changes and the prognosis of alopecia areata is unclear.

Related Links:

[Wichita Alopecia Areata Support Group](#)

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File Type: jpg

Category: nail disorders /
hair disorders

Age: 12 years

First Published: August 26, 2002



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Contributor: Bernard Cohen, MD

First Published: August 26, 2002

Description: Scotch plaid pitting of the nails

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[National Alopecia Areata Foundation](#)

Other Resources:

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MedlinePlus: [alopecia areata](#)

PubMed: [nail dystrophy](#)

MedlinePlus: [nail dystrophy](#)

PubMed: [nail pitting](#)

MedlinePlus: [nail pitting](#)

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Show: 20 Items 1-20 of 1491 Page 1 of 75 Select page: 1 2 3 4 5 6 7 8 9 10 »

1: [Moreno JC, Ocana MS, Velez A.](#) **Cyclosporin A and alopecia areata.** J Eur Acad Dermatol Venereol. 2002 Jul;16(4):417-8. No abstract available. PMID: 12224710 [PubMed - in process] Related Articles, [NEW](#) Links

2: [Assouly P.](#) **[Alopecia areata: update on therapy]** Ann Dermatol Venereol. 2002 May;129(5 Pt 2):831-6. French. PMID: 12223967 [PubMed - in process] Related Articles, [NEW](#) Links

3: [Tan E, Tay YK, Giam YC.](#) **A clinical study of childhood alopecia areata in singapore.** Pediatr Dermatol. 2002 Jul-Aug;19(4):298-301. PMID: 12220271 [PubMed - in process] Related Articles, [NEW](#) Links

4: [Suljagic E, Prohic A, KSijercic N, Hadzigraphic N, Tupkovic E.](#) **Psychological disturbances in patients with alopecia areata.** Acta Dermatovenereol Croat. 2002 Jun;10(2):121-2. PMID: 12206737 [PubMed - in process] Related Articles, [NEW](#) Links

5: [Paus R.](#) **...** Related Articles, [NEW](#) Links

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Select Entries from OMIM -- Online Mendelian Inheritance in Man

13 entries found, searching for "alopecia areata"

[104000](#) ALOPECIA AREATA

[#203655](#) ALOPECIA UNIVERSALIS CONGENITA; ALUNC

[104110](#) ALOPECIA, FAMILIAL FOCAL

[*147150](#) MYXOVIRUS RESISTANCE 1, MOUSE, HOMOLOG OF; MX1

[*191160](#) TUMOR NECROSIS FACTOR; TNF

[*240300](#) AUTOIMMUNE POLYENDOCRINOPATHY SYNDROME, TYPE I

[*147679](#) INTERLEUKIN 1 RECEPTOR ANTAGONIST; IL1RN

[109650](#) BEHCET SYNDROME

[176670](#) PROGERIA

[275400](#) TRICHOMEGALY WITH MENTAL RETARDATION, DWARFISM, AND PIGMENTARY DEGENERATION OF RETINA

[#109100](#) AUTOIMMUNE DISEASES

[*161050](#) NAIL DYSPLASIA

[187360](#) TEMPORAL ARTERITIS

alopecia areata

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104000 ALOPECIA AREATA

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Database Links

[MEDLINE](#) [Protein](#) [DNA](#)**Medline | Protein | DNA**

Note: pressing the  symbol will find the citations in MEDLINE whose text most closely matches the text of the preceding OMIM paragraph, using the Entrez MEDLINE neighboring function.

TEXT

Alopecia areata is a chronic inflammatory disease characterized by patchy hair loss with T-cell infiltration of hair follicles. It occurs in approximately 0.1% of the general population ([Safavi, 1992](#)), but in approximately 9% of patients with Down syndrome ([Brown et al., 1977](#)).

[Lubowe \(1959\)](#) described a family with affected mother and affected daughter and son. Evidence suggests an autoimmune mechanism in this disorder. See autoimmune diseases ([109100](#)). [Stankler \(1979\)](#) observed onset in brother and sister at age 2, with regular and periodic synchronous exacerbation thereafter. One exacerbation was after mumps. In a white American family, [Hordinsky et al. \(1984\)](#) found alopecia universalis in 2 brothers and alopecia areata in the son of one of them. [Valsecchi et al. \(1985\)](#) found 6 cases in 3 generations and showed that all affected persons had the same haplotype, HLA-Aw32,B18. In 2 Israeli families, [Zlotogorski et al. \(1990\)](#) could find no linkage to HLA. [Galbraith and Pandey \(1989\)](#)

Database Links



**National Center for
Biotechnology Information**

OMIM Database Link Types

[\[Androgen\]](#)

The Androgen Receptor Mutations Database

[\[Ataxia\]](#)

The Ataxia-Telangiectasia Database

[\[BIOMDB\]](#)

The BIOMDB database of mutations causing tetrahydrobiopterin deficiencies

[\[BTK\]](#)

The BTKBase mutation registry for X-Linked agammaglobulinemia

[\[HGMD\]](#)

The Cardiff Human Gene Mutation Database entry related to this OMIM entry.

[\[Coriell\]](#)

The Coriell Cell Repositories cell cultures related to this OMIM entry.

[\[CFMDB\]](#)

The Cystic Fibrosis Mutation Database

[\[EMD\]](#)

The Emery-Dreifuss Muscular Dystrophy Mutation Database

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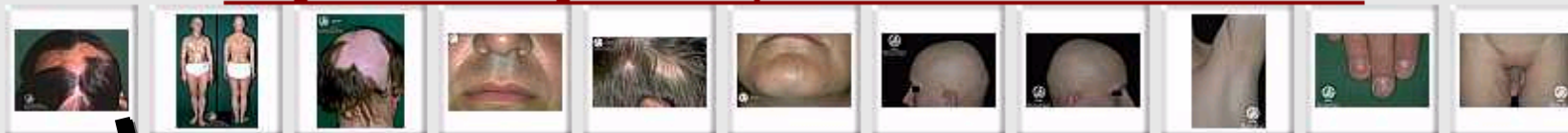
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images for the diagnosis 'Alopecia Areata'



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patient age: 11 years, **patient sex:** female

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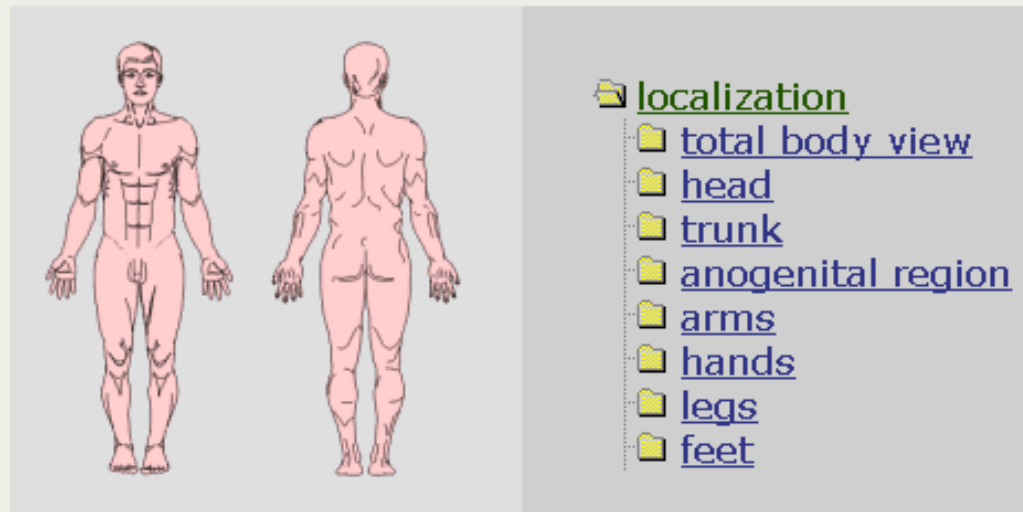
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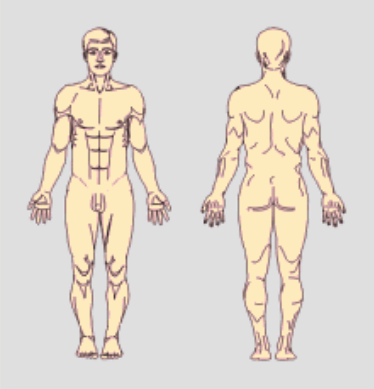
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Chronic
Stationary Type




Pityriasis Rubra
Pilaris Devergie




Pityriasis
Lichenoides et
Varioliformis
Acuta (Mucha-
Habermann)



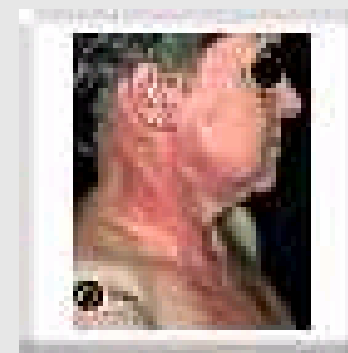
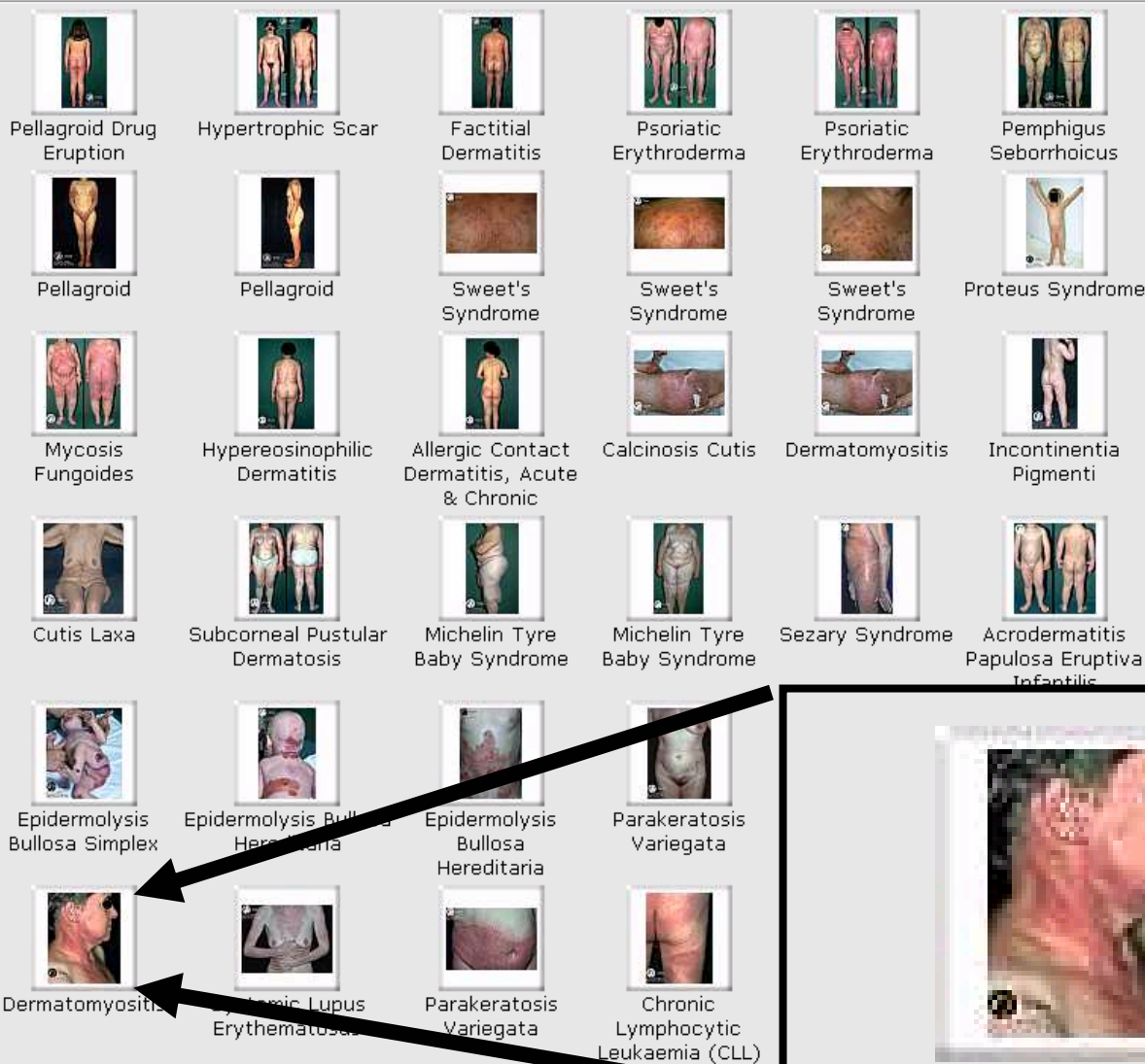
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Congenita
Circumscripta /
Diffusa



Drug Eruption



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browse over 2000 pediatric images

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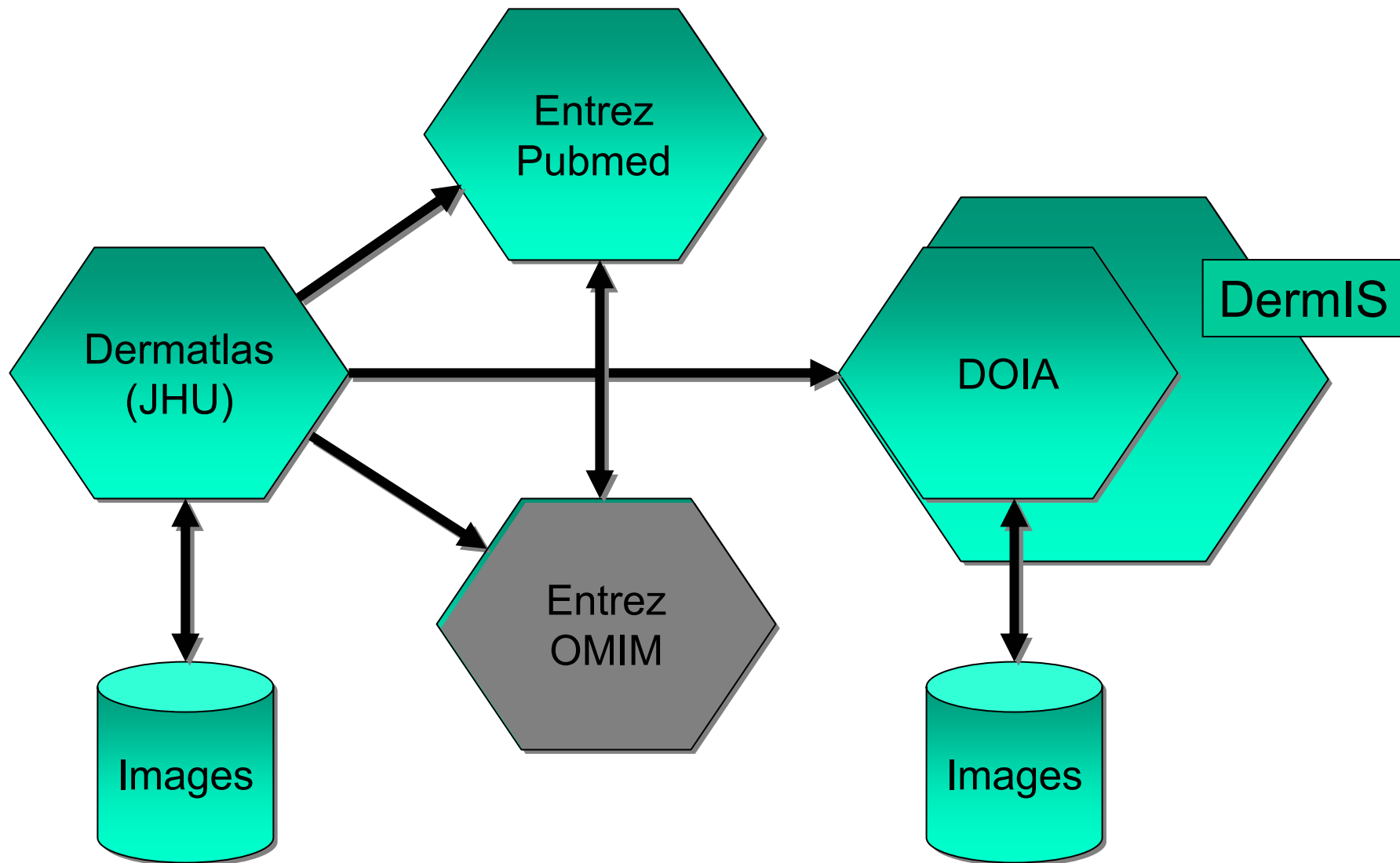
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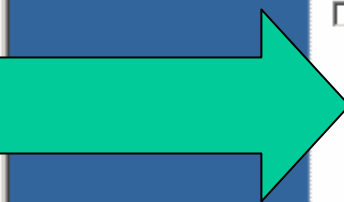


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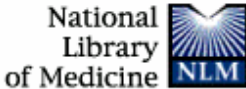






Pubmed search on Alopecia areata

- 
- ☐ 6: [Mainardi E, Montanelli A, Dotti M, Nano R, Moscato G.](#) Related Articles, **NEW** Links
Thyroid-related autoantibodies and celiac disease: a role for a gluten-free diet?
J Clin Gastroenterol. 2002 Sep;35(3):245-8.
PMID: 12192201 [PubMed - in process]
- ☐ 7: [Carroll JM, McElwee KJ, E King L, Byrne MC, Sundberg JP.](#) Related Articles, **NEW** Links
Gene array profiling and immunomodulation studies define a cell-mediated immune response underlying the pathogenesis of alopecia areata in a mouse model and humans.
J Invest Dermatol. 2002 Aug;119(2):392-402.
PMID: 12190862 [PubMed - in process]
- ☐ 8: [McElwee KJ, Hoffmann R.](#) Related Articles, **NEW** Links
Alopecia areata - animal models.
Clin Exp Dermatol. 2002 Jul;27(5):414-21.
PMID: 12190642 [PubMed - in process]
- ☐ 9: [McDonagh AJ.](#) Related Articles, **NEW** Links
Epidemiology and genetics of alopecia areata.
Clin Exp Dermatol. 2002 Jul;27(5):409-13.
PMID: 12190641 [PubMed - in process]
- ☐ 10: [Sharquie KE, Al-Rawi JR, Al-Janabi HA.](#) Related Articles, **NEW** Links
Frictional hair loss in Iraqi patients.
J Dermatol. 2002 Jul;29(7):419-22.

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Gene array profiling and immunomodulation studies define a cell-mediated immune response underlying the pathogenesis of alopecia areata in a mouse model and humans.

Carroll JM, McElwee KJ, E King L, Byrne MC, Sundberg JP.

Genetics Institute/Wyeth Research, Cambridge, Massachusetts, U.S.A.; The Jackson Laboratory, Bar Harbor, Maine, U.S.A.; Division of Dermatology, Vanderbilt University and Nashville Veterans Affairs Medical Center, Nashville, Tennessee, U.S.A.

Alopecia areata is a suspected autoimmune hair loss disease. In a rodent model, alopecia areata can be induced in normal haired C3H/HeJ mice by transfer of skin grafts from mice with spontaneous alopecia areata. At weeks 2, 4, 6, and 10 after surgery, grafted mice were euthanized, skin collected and processed for histology, and RNA extracted. Age-matched sham-grafted mice, and mice with and without spontaneous alopecia areata, were similarly processed. For comparison, skin biopsies from alopecia areata and androgenetic alopecia

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Journal of Investigative Dermatology

Volume 119 Issue 2 Page 392 - August 2002

Gene Array Profiling and Immunomodulation Studies Define a Cell-Mediated Immune Response Underlying the Pathogenesis of Alopecia Areata in a Mouse Model and Humans

Joseph M. Carroll¹ Kevin J. McElwee^{*2} Lloyd E. King Jr, Michael C. Byrne, and John P. Sundberg^{*}

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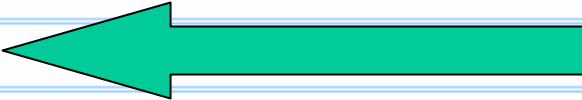
Authors:

- ☐ Joseph M. Carroll
- ☐ Kevin J. McElwee
- ☐ Lloyd E. King Jr,
- ☐ Michael C. Byrne
- ☐ John P. Sundberg
- ☐

Full
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Table 1 – Upregulated transcripts in mice

Table 1. Upregulated transcripts (≥ 3 -fold) in mice receiving AA affected skin grafts at 4-6wk after grafting compared with no changes in those mice receiving normal, unaffected skin grafts (42 known genes, 16 expressed sequence tags)

GenBank accession no.	Common gene name	Official gene symbol/name/type
X69902_s_at	Integrin $\alpha 6$	<i>Itga6</i> : integrin $\alpha 6$ (other) 
X99807_s_at	Selenoprotein P	<i>Sepp1</i> : selenoprotein P, plasma, 1 (other)
Z11974_s_at	Mrc1	<i>Mrc1</i> : mannose receptor, C type 1 (other)
L20315	Mpeg1	<i>Mpeg1</i> : macrophage expressed gene 1 (macro)
X00619	Tcrb-V13	<i>Tcrb-V13</i> : T cell receptor β , variable chain 13 (T cell)
X00958	I-E (class II)	<i>H2-I-Eb</i> (I-E (β -b)) (macro/APC)
X03151_s_at	Thy 1 antigen	<i>Thy1</i> : thymus cell antigen 1, θ (T cell)
X03533_s_at	Tyrosine protein kinase p56-tck	<i>Lck</i> : lymphocyte protein tyrosine kinase (T cell)
X04648_s_at	FcR	<i>Fcgr2b</i> : Fc receptor, IgG, low-affinity Iib (macro/APC)
X14951_s_at	IEA-1/CD18	<i>Itah2</i> : integrin $\alpha 2$ (cd18) (T cell)

GenBank accession no.
X69902_s_at

Common gene name
Integrin 6

Official gene symbol/name/type
Itga6: integrin 6 (other)

NCBI

CGCTCAGGATAGACTTCGCTGCTAGAGATCGGATCCCCGGGCTATTATATAGCTCGATCGATCTTCTCTATATCCCGGCTATGGGATATACACACACACCGCGGATAGCATGACTGATCTACACAGACTACGCTTCTCACTTACTTAACCAATTCGGAGAGGGGCGGCGGATCGGCGGAG

Search Nucleotide for x69902 Go Clear

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1: [X69902](#)

M.musculus mRNA for integrin alpha6 subunit
gi|408127|emb|X69902.1|MMINTEG[408127]

NCBI

CGCTCAGGATAGACTTCGCTGCTAGAGATCGGATCCCCGGGCTATTATATAGCTCGATCGATCTTCTCTATATCCCGGCTATGGGATATACACACACACCGCGGATAGCATGACTGATCTACACAGACTACGCTTCTCACTTACTTAACCAATTCGGAGAGGGGCGGCGGATCGGCGGAG

Search Nucleotide for Go Clear

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Display default Save Text Add to Clipboard Get Subsequence

1: X69902. M.musculus mRNA f...[gi:408127]

LOCUS MMINTEG 3756 bp mRNA linear ROD 14-OCT

DEFINITION M.musculus mRNA for integrin alpha6 subunit.

ACCESSION X69902

VERSION X69902.1 GI:408127

KEYWORDS integrin alpha 6 subunit; transmembrane protein.

SOURCE Mus musculus.

ORGANISM [Mus musculus](#)

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; 1

REFERENCE 1 (bases 1 to 3756)

AUTHORS Hierck, B.P.

TITLE Direct Submission

JOURNAL Submitted (24-DEC-1992) B.P. Hierck, Dept. of Anatomy and Embryology, Uni. of Leiden, P.O. Box 9602, 2300 RC Leiden, THE NETHERLANDS

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/note="transmembrane domain"

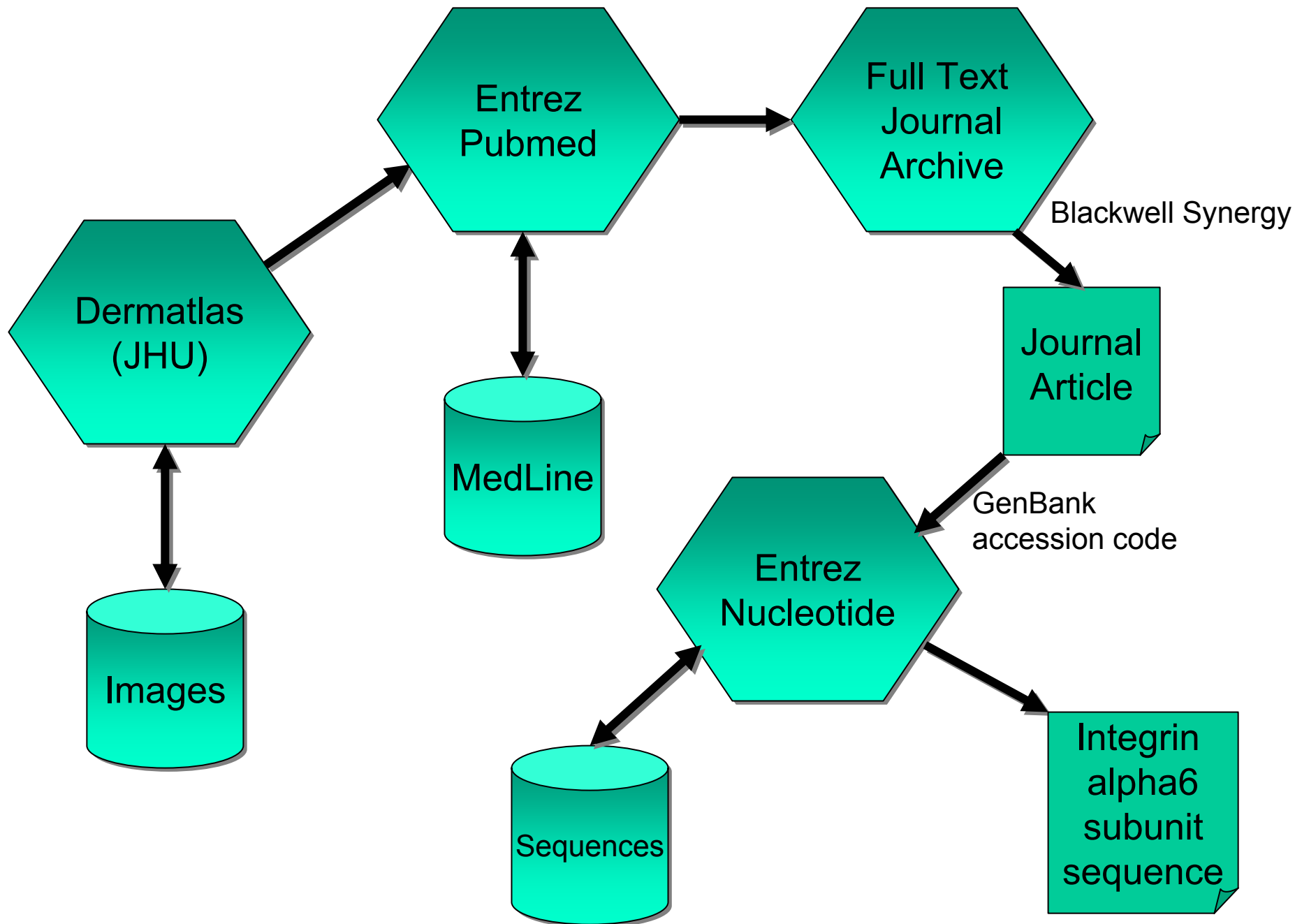
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/note="spliced out region in alpha 6B"

misc_feature 3426..3587
/note="alpha 6B cytoplasmic domain"

BASE COUNT 1022 a 887 c 973 g 874 t

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181 catggccgtc gggggccagt tgtgctgct ctactgtcc gccgggcttc tagccggct
241 gggtagagcc ttcaacctgg acaccgcga ggacaacgtg atccggaaat cgggggatcc
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541 gagccaaggt ccagggggca aagtgggtgac gtgtgcacat cgatatgaga aacggcagca
601 cgtcaacacg aagcaggagt cgcgggatat ctttgaaga tggtagtccc tgagtcagaa
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781 tcattacatt gtttttggag ccccgaggac ttacaactgg aaagggatcg tccgtgtaga
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Phenotype + Genotype



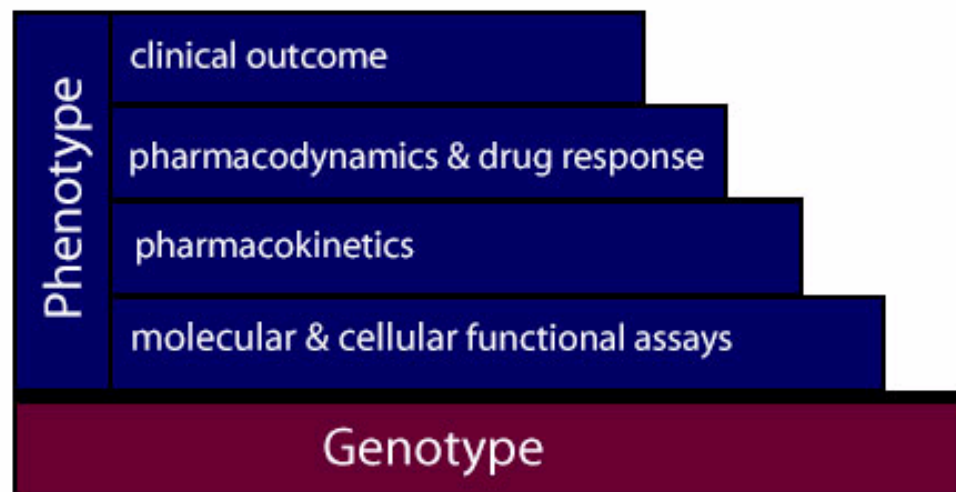
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PharmGKB is an integrated resource about how variation in human genes leads to variation in our response to drugs. Genomic data, molecular and cellular phenotype data, and clinical phenotype data are accepted from the scientific community at large.

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Categories of Pharmacogenetic Knowledge



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PharmGKB is managed at Stanford University.

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Search

Pharmacokinetics, Pharmacodynamics and Drug Response

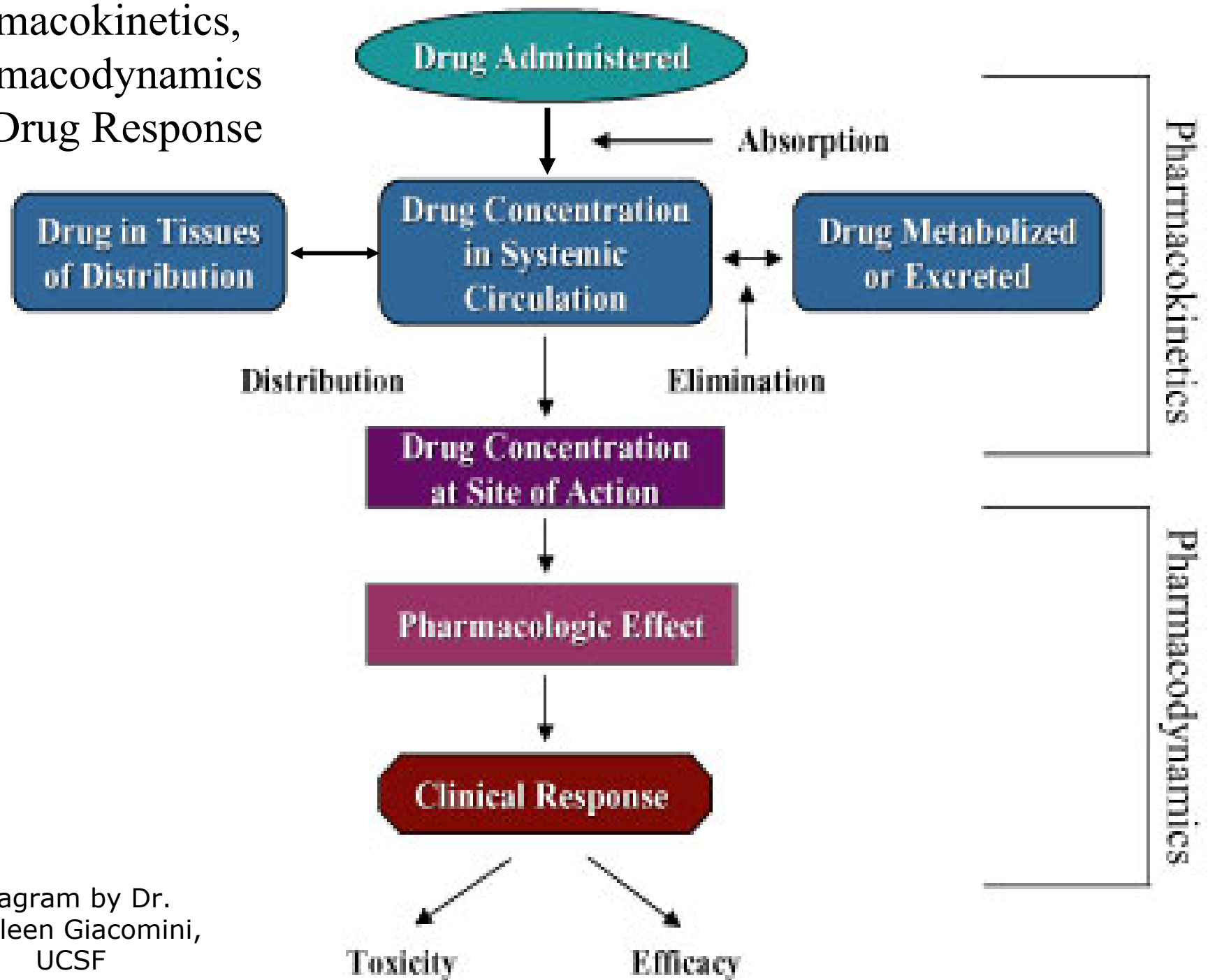


Diagram by Dr.
Kathleen Giacomini,
UCSF

Pharmacogenetic Knowledge

Phenotype

clinical outcome

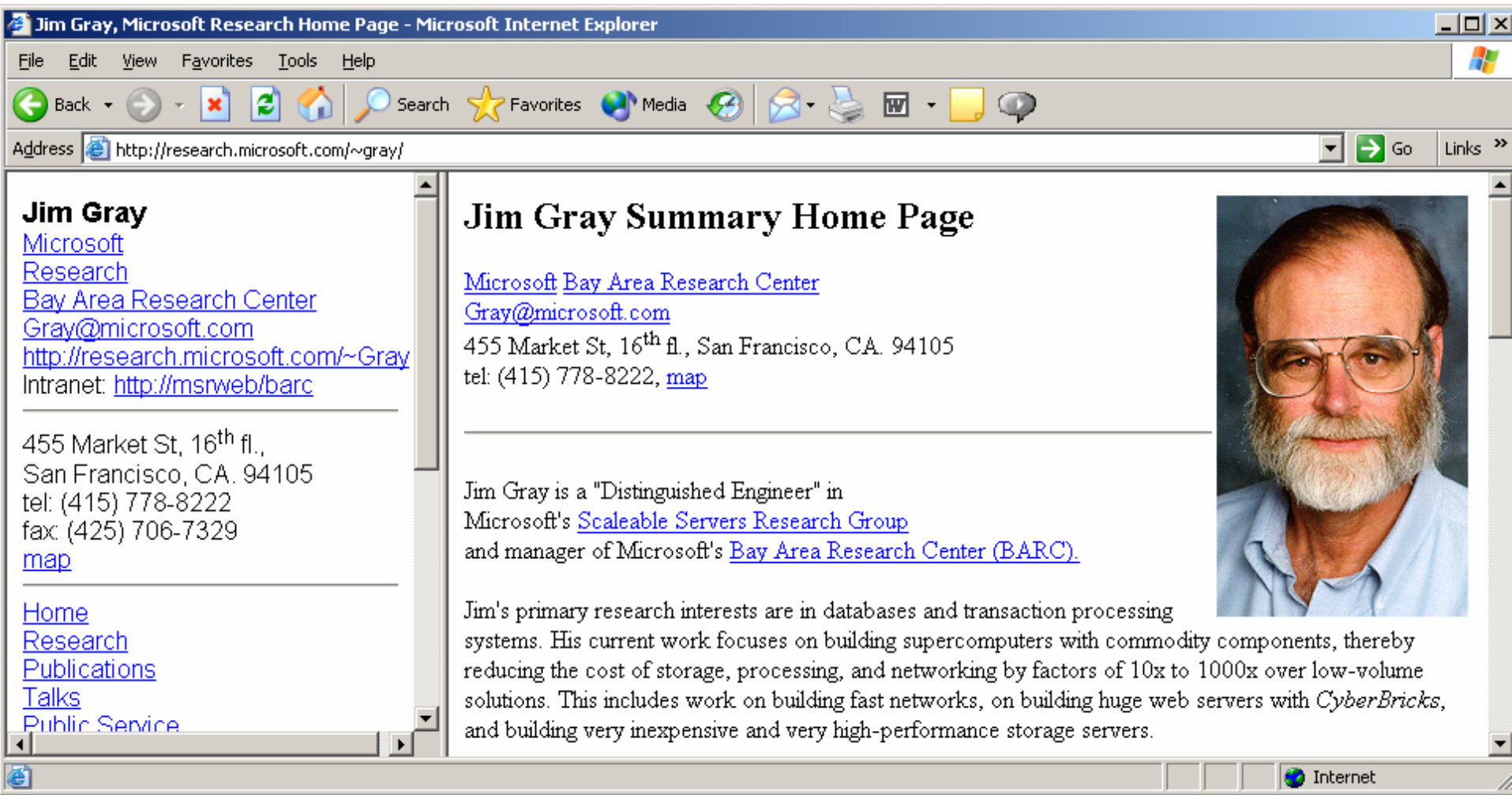
pharmacodynamics & drug response

pharmacokinetics

molecular & cellular functional assays

Genotype

http://research.microsoft.com/~gray/



Jim Gray

- Jim's primary research interests are in databases and transaction processing systems. His current work focuses on building supercomputers with commodity components, thereby reducing the cost of storage, processing, and networking by factors of 10x to 1000x over low-volume solutions. This includes work on building fast networks, on building huge web servers with *CyberBricks*, and building very inexpensive and very high-performance storage servers.
- Jim also is working with the astronomy community to build the world-wide telescope. When all the world's astronomy data is on the Internet and is accessible as a single distributed database, the Internet will be the world's best telescope. This is part of the larger agenda of getting all information online and easily accessible (digital libraries, digital government, online science, ...).

Short vita

- Jim Gray is part of Microsoft's research group. His work focuses on databases and transaction processing. Jim is active in the research community, is an ACM, NAE, NAS, and AAAS Fellow, and received the ACM Turing Award for his work on transaction processing. He edits of a series of books on data management, and has been active in building online databases like <http://terraService.Net> and <http://skyserver.sdss.org> .